

Name: _____

pa1106: Factoring with box when $a = \text{prime}$ (v11)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $5x^2 + 34x + 45$.

*	x	
5x	$5x^2$	$25x$
9	$9x$	45

ANSWER: $(5x + 9)(x + 5)$

Question 2

Use the box to factor $7x^2 - 43x - 42$.

*	x	-7
7x	$7x^2$	$-49x$
6	$6x$	-42

ANSWER: $(7x + 6)(x - 7)$

Question 3

Use the box to factor $3x^2 - 28x + 49$.

*	x	-7
3x	$3x^2$	$-21x$
-7	$-7x$	49

ANSWER: $(3x - 7)(x - 7)$